

EDGERTON, GERMESHAUSEN & GRIER, INC.

INTER-OFFICE MEMORANDUM

DATE 31 August 1959

TO:  
STATINTL  
FROM:



SUBJECT: Job No. 2684 - Manpower Breakdown

Initial manpower estimate was based upon scheduled two weeks' work at Lockheed, followed by two weeks' work at [REDACTED]. It was estimated that approximately 4½ man months of engineering and technician time would be required to complete the job. Actual time spent on the job to date has been six engineering man months and 14 technician man months.

Following is a list of those items which contributed to the overage in manpower:

1. Numerous technical difficulties in checking out the system, such as:
  - (a) Remodifying antenna mounts;
  - (b) Rebuilding oscillator power supply circuits;
  - (c) Fabrication of Keyer slicer chassis, with considerable modification;
  - (d) Fabrication of moditor scope selector panels;
  - (e) Fabrication of base time generator;
  - (f) Fabrication of remote camera control unit;
  - (g) Fabrication of audio distribution system;
  - (h) Fabrication of dio monitor circuter.
2. Approximately two man months of effort was spent in packaging equipment for shipment to final destination.
3. A considerable amount of time was spent in flight testing, which had not been anticipated.
4. Read out equipment, using direct-writing oscillograph, was assembled, and considerable amount of engineering effort expended in analyzing results of local test flights.
5. All film was read and reduced to geographic coordinance, in order that test data could be interpreted.
6. A considerable amount of overtime was authorized in support of the effort, in order to try and maintain the original schedule. Several major modifications were made to the initial rack layout, due to unforeseen problems that occurred during flight tests.

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SUBJECT: Job No. 2684 - Manpower Breakdown (Continued)

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In addition to the above unforeseen items, which materially affected the labor estimate, the following items of equipment were fabricated and were not included in the original estimate:

- (a) Base time generator.
- (b) Camera control unit.
- (c) Two monitor scope switching circuits.
- (d) Crystal current moditor panel.
- (e) Power distribution circuit.
- (f) Power supply distribution circuits for pre-amplifier and I.F. strips.
- (g) Antenna switching circuits.
- (h) Keyer slicer chassis.
- (i) Local timing synchronizer circuitry.

The above items of fabrication are responsible for the Materials and Services figure of \$4,000, as against the original estimate of \$1,000, and also represent approximately one-third of the additional labor and related Burden figures.

Based upon the initial estimate at  $4\frac{1}{2}$  man months of labor, a schedule of two weeks was allotted for completion. Additional unforeseen support, as outlined above, required a total of two months for completion, which was responsible for manpower estimate being under by a factor of 4.

Total expenditures through August 31st, exclusive of Fee, amount to \$35,610.

It has been estimated that an additional two engineering man months will be required for the completion of this job, with approximately \$1,000 of M & S and shipping charges.

JK/b